

## The IWR Planning Suite II Uncertainty Module

July 23, 2020

Q&A Session

*This webinar provided an overview of the Uncertainty Module within the Institute for Water Resources (IWR) Planning Suite II. The module provides its users with the ability to consider the influence of uncertainty on the results of cost-effectiveness and incremental cost analyses performed on study alternatives involving monetary and non-monetary costs and benefits.*

*Presenter Shawn Komlos (Supervisory Physical Scientist at IWR) discussed how the module, which is a standard component of the certified version of the IWR Planning Suite II software, was developed and implemented to support study teams' efforts to rapidly assess the influence of uncertainty on alternatives on or near the cost-effective frontier.*



*For more information on or assistance with using the Uncertainty Module, planners should review the training resources listed on Slide 42 of the presentation or reach out to the IWR Planning Suite Development Team at [DLL-CEIWR\\_IWR-PLAN@usace.army.mil](mailto:DLL-CEIWR_IWR-PLAN@usace.army.mil), the Ecosystem Restoration Planning Center of Expertise (ECO-PCX).*

*This summary of the Question / Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.*

### **Some project delivery teams (PDTs) have experienced issues importing data into the SQL format. Has a remedy been identified, or is there a fix available that does not require manual data entry?**

IWR Planning Suite II adopted an SQL format because the newer capabilities of the software require management and processing of larger volumes of data. Due to the specific nature of individual studies/analyses and potential remedies, planners who are experiencing issues importing data into the SQL format are encouraged to contact the *IWR Planning Suite Development Team* at [DLL-CEIWR\\_IWR-PLAN@usace.army.mil](mailto:DLL-CEIWR_IWR-PLAN@usace.army.mil) for assistance.

### **How sensitive is the analysis to a particular distribution setting (i.e., if someone chooses the “wrong” distribution for one of the variables, how much influence will it have on the results)? Is there guidance available regarding the type of distribution to assign to a variable, especially for non-statisticians?**

The sensitivity of cost effectiveness and incremental cost analyses to the distributions assigned to individual variables depends on multiple factors, such as: relative differences among estimated values of variables (i.e., costs and outputs) of analyzed alternatives; types of distributions (and values of parameters) selected to reflect variability of and confidence in estimated values of variables; and the relative influence of individual variables on costs and outputs considered during cost effectiveness and incremental cost analyses. The sensitivities are likely to be study specific.

There are many resources available to help planners understand how to identify, understand, and characterize sources of uncertainty relevant to water resources management and ecosystem restoration projects. However, the type of distribution to be assigned to a variable will depend on context and circumstances that might be best assessed/evaluated on a case by case basis in consultation with scientists and engineers knowledgeable about the systems under study, and/or the relevant Planning Center(s) of Expertise.

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References on uncertainty and its consideration during planning and decision-making can be found at the [IWR Planning Assistance Library](#).

### **Are all planners expected to be able to use the Uncertainty Module, or is it only intended for use by economists that understand statistics?**

There is no expectation that all planners will know how to use the Uncertainty Module. It is hoped that planners can/will, at some level, be capable of recognizing, identifying, and understanding the influence of uncertainty on results of cost effectiveness and incremental cost analyses, so that those with a deeper understanding of the systems under study, the tools and models being used, and the scientists/engineers performing the planning analyses can be consulted during assessment of uncertainties' effects on estimations of alternatives' cost effectiveness. There are trainings available online and, IWR can provide technical support and answer questions (*see Slide 42 of the presentation for additional information on training and resources*).

### **Does IWR have any record of which projects used the IWR Planning Suite II?**

All ecosystem restoration and mitigation projects are required to perform cost effectiveness and incremental cost analyses. The IWR Planning Suite (or its earlier versions) has been available and used for such analyses on aquatic ecosystem restoration and like projects since prior to 2000. IWR Planning Suite II was certified for national use in 2018, so the list of projects using IWR Planning Suite II is likely to be short, but growing. In addition, the IWR Planning Suite development team does not maintain a record of all studies that have used IWR Planning Suite (or earlier versions). However, the software has been a mainstay of aquatic ecosystem restoration studies since the late 1990s and its uses may be reflected in studies known to the ECO-PCX.

Note: The 31 May 2018 memorandum certifying the software for national use requires that all ongoing studies that have not scheduled a Tentatively Selected Plan milestone meeting as of the issuance of the memo migrate to IWR Planning Suite II. However, if migration to IWR Planning Suite II presents an undue burden to small-scale feasibility studies and Continuing Authority Program studies, permission to use IWR Planning Suite may be granted by the ECO-PCX on a study by study basis.